REMARKS

Claims 1-3, 5 and 8 are pending in the application.

Claims 1, 2, 5 and 8 stand rejected under 35 U.S.C. §102(b) as being anticipated by Zafiroglu US 5,879,779. This rejection is respectfully traversed.

The Office Action recites that Zafiroglu at col. 2, lines 13-41 discloses a stitchbonded fabric of a material characterized among other things by comprising a non-fibrous layer of polymer. Applicants maintain that this greatly and inaccurately overstates the disclosure. Zafiroglu is concerned primarily with a stitchbonded nonwoven fabric of the type that includes a fibrous layer and patterns of stitches inserted therein with stitching threads at least one of which consists essentially of partially molecularly oriented synthetic organic polymer(col. 2, lines 13-18). Only in Example 1 (of four examples) is the stitchbonded fabric further resin treated to effect partial impregnation of the resin into the upper outer layer of the fabric. This single example is directed to showing that the fabric of Zafiroglu can be made to provide highly desirable leather-like properties. Nowhere else does Zafiroglu mention or so much as hint at the existence of a non-fibrous layer of polymer associated with the stitchbonded fabric. The cured polyurethane resin layer on the fabric of Example 1 is thus merely incidental to the disclosure. It is not a feature which characterizes the fabric.

The Office Action correctly describes the important elements of the claimed invention that the fabric has multi-needle stitched threads including contractible yarn in a material comprising a non-fibrous polymer layer which material has been contracted by the contractible yarn. However, even the

embodiment of Example 1 of Zafiroglu does not disclose such elements. In that example, a fibrous layer of nonwoven fabric is needle stitched with contractible polyester yarn and the stitched fabric is contracted in boiling water to shrink the fabric. See col. 5, lines 44-64. Only after contracting the nonwoven fabric was the resin treatment applied (col. 6, lines 11-13). The finished leather-like article had a polymer coating, but the stitched fabric material contracted by the yarns in Zafiroglu did not include a polymeric non-fibrous layer. In short, the polymeric coating in Example 1 was not contracted by the contractible yarns. Thus no material comprising a non-fibrous layer of polymer or metal contracted by contractible yarns as called for by the claims was taught or suggested by Zafiroglu.

The appearance of an article formed by painting and curing a polymer coating on an already contracted substrate is substantially different from that of the novel article comprising a polymer or metal film contracted by contractible yarns. The former can give an impliedly smooth surface that could be embossed (Zafiroglu col. 6, line 26). The latter can provide a non-uniform glitter and surface sheen (specification page 7, line 4) and non-uniform light reflective and refractive characteristics (page 7, lines 13-14). Hence, the distinction as to whether the polymer or metal layer is applied to the fabric before or after contraction is material to the product.

Applicants agree with the Examiner that their previously presented argument's emphasis upon the stitches in Zafiroglu not penetrating the polymer layer of the resin may not persuasively distinguish in view that the resin layer impregnates and partially penetrates the fibrous nonwoven. Nonetheless, the claims call for the material to comprise a non-fibrous layer of

polymer and for that material to have been contracted by the contractible yarns. That is, the non-fibrous layer is contracted by the yarns. As just mentioned above, this differs from the cited disclosure in which the contracted material consists essentially of stitched non-woven fabric on which a polymer coating is applied after contraction. Therefore, the polymer coating is not contracted by the yarns and Zafiroglu does not anticipate these claims.

Claim 3 stands rejected under 35 U.S.C. §103(a) as being obvious over Zafiroglu in view of Sawko, US 5,436,075.

The Office Action acknowledges that Zafiroglu does not disclose a non-fibrous layer of metal foil. Sawko is said to teach a non-fibrous layer of metal foil for improving thermal insulation capability. The Office Action maintains that it would have been obvious to provide the structure of Zafiroglu with a metal foil layer to improve thermal insulation capability.

This rejection should not stand mainly because one of ordinary skill in the art would not be motivated to modify Zafiroglu by adding a foil layer as in Sawko. The lack of motivation is apparent in several ways.

Firstly, To maintain an obviousness rejection, there must be motivation for modifying the disclosures expressed within the references. Zafiroglu relates to fabrics for automobile dashboards and headliners, office separating walls, wall coverings and the like (col. 1, lines 20-24). Nowhere does Zafiroglu suggest that thermal insulation is a performance parameter of the product. Neither does Zafiroglu disclose that insulation capability is lacking nor that improved insulation capability is desired. Where Zafiroglu discusses desired product properties, for example, leather-like characteristics in

Example 1, thermal insulation ability is not mentioned. There is no statement of need to modify the thermal insulation property of Zafiroglu's fabric. The assertion that products of Zafiroglu might benefit from having improved thermal insulation capability is completely speculative.

Secondly, Sawko is directed to fabricating composite flexible blanket insulation for sophisticated high technology uses, particularly for the surface of aerospace vehicles subject to very high temperatures during flight (Abstract lines 9-12 and col. 3, lines 57-68). In contrast, Zafiroglu is directed to mundane fabric applications although very important in their own right such as previously mentioned dashboards and headliners, office walls, wall coverings, etc. Applicants admit that one should not categorically dismiss the possibility that technology developed to solve space exploration problems can find commonplace practical application. However, and assuming for sake of argument only that improvement of insulation capability is desired by Zafiroglu, Applicant urges that it is not logical to incorporate a solution designed to withstand service temperatures of about 1000-2000°C on the skin of a vehicle in space flight to improve the insulation property of automobile dashboards and headliners, office separating walls, wall coverings and the like.

In support of the foregoing proposition, Applicants point to Sawko at col. 11, lines 38-41. Sawko there states that the purpose of the metal foils in the blanket insulation is to act as a radiation shield in the multilayer assembly. Radiation is perhaps an important heat transfer parameter for insulation on the surface of a vehicle in space flight conditions. Applicants contend that the thermal insulating capability improvement due to radiation shielding of a dashboard, headliner, office wall,

wall covering fabric or similar typical application of the Zafiroglu fabric is quite doubtful. Therefore, a skilled artisan would not be motivated to provide thermal insulation ability of the Zafiroglu fabric by incorporating a radiation shielding metal foil on the basis of Sawko's disclosure.

Another reason for not combining the teaching of Sawko with Zafiroglu is largely the same as an argument made by Applicants in their paper of November, 2003. This argument was not refuted in the Examiner's Response to Arguments section of the present Official Action.

In particular, the blanket insulation of Sawko (Figs. 2 and 17) includes an outer layer of ceramic thermal insulation quilted to a multilayer system of reflecting radiation sheild layers of aluminized polyimide film or any other metallic film on a polymeric substrate (col. 4, lines 14-28). The blanket is stitched with combinations of shallow superficial stitches "SSS" and deep stitches "DS" (Fig. 2). The purpose of such stitching is to provide maximum quilting with minimum damage to insulation layers (col. 10, lines 63-65 and col. 11, lines 3-6). Square and other sewing patterns which create the smallest possible damage to the blanket layers are required (col. 11, lines 10-14). The stitching needle is as thin as possible to minimize damage to the foils (col. 24 lines 4-5). Clearly, great effort is directed to maintaining the dimensional and structural integrity of the blanket insulation.

In contrast Zafiroglu utilizes contractible partially oriented yarns ("POY") adapted to shrink the fabric by reducing its length and/or width to less than 50% of the as-stitched dimensions and the planar area to less than 25% of its as-stitched area. See paragraph bridging cols. 3 and 4. This is opposite of the effect needed by Sawko. Thus to achieve desired

thermal insulation ability offered by Sawko, one infers that the metal foil must not be damaged (i.e., torn, broken, shrunk, buckled, crumpled, wrinkled or otherwise distorted from its planar configuration). A metal foil incorporated into Zafiroglu is certainly distorted by contraction of the contractible yarns. Therefore, based on Sawko, one of ordinary skill in the art would not add a metal foil layer to Zafiroglu to achieve improved insulation capability.

For the foregoing reasons, Applicants earnestly believe that the cited references neither anticipate nor render obvious the instant claims. Applicants thus respectfully request that the rejections be withdrawn. If the Examiner has remaining concerns about any unresolved issues, Applicants ask that she telephone the undersigned to arrange for an interview prior to issuing the next official action.

Respectfully submitted,

Date: April 27, 2004
2205 Silverside Road
Wilmington DE 19810
Facsimile:(302) 475-7915

Jeffrey C. Lew
Attorney for Applicant
Registration No. 35,935
Telephone:(302) 475-7919